British Phycological Journal

Index and Contents to Volume 14
March — December 1979

Published for the
British Phycological Society
by Academic Press
London New York San Francisco

564

Copyright © 1979, by The British Phycological Society

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means, without written permission from the publishers.

Printed in Great Britain

BRITISH PHYCOLOGICAL JOURNAL
CONTENTS AND INDEX TO
VOLUME 14

The Council of the British Phycological Society wish it to be understood that they do not accept responsibility for the accuracy of statements published in the *Journal*, excepting when those statements are contained in an official report of the Council.

Number 1, pp. 1–101, 5 March 1979
Number 2, pp. 103–196, 4 June 1979
Number 3, pp. 197–303, 24 September 1979
Number 4, pp. 305–412, 3 December 1979

Page

ADMIRAAL, W. and PELETIER, H.
Sulphide tolerance of benthic diatoms in relation to their distribution in an estuary 185

ADMIRAAL, W. and PELETIER, H.
Influence of organic compounds and light limitation on the growth rate of estuarine benthic diatoms 197

ARCHIBALD, P.
Descriptions of new edaphic and aquatic species of *Chlorococcum* Meneghini (Chlorococcales) 305

ARIOVICH, D. and PIENAAR, R. N.
The role of light in the incorporation and utilization of Ca^{++} ions by *Hymenomonas carterae* (Braarud et Fagerl.) Braarud (Prymnesiophyceae) 17

BELCHER, J. H. and SWALE, E. M. F.
English freshwater records of *Actinocyclus normanii* (Greg.) Hustedt (Bacillariophyceae) 225

BLINN, D. W., *see* TUCHMAN and BLINN 243

BOLTON, J. J.
The taxonomy of *Pilayella littoralis* (L.) Kjellm. (Phaeophyta, Ectocarpales) in the British Isles, a numerical approach 317

BOOKER, M. J. and WALSBY, A. E.
The relative form resistance of straight and helical blue-green algal filaments 141

BRAARUD, T.
The temperature range of the non-motile stage of *Coccolithus pelagicus* in the North Atlantic region 349

BROADY, P. A.
Qualitative and quantitative observations on green and yellow-green algae in some English soils 151

CALLOW, M. E. and EVANS, L. V.
Polyphosphate accumulation in sulphur-starved cells of *Rhodella maculata* 327

CHANG, T. P.
Growth and acetylene reduction by *Gloeotrichia echinulata* (Smith) Richter in axenic culture 207

CHIANG, Y.-M., *see* LI and CHIANG 377
CLAYTON, M. N.
The life history and sexual reproduction of *Colpomenia peregrina* (Scytosiphonaceae, Phaeophyta) in Australia 1
COX, E. J.
Studies on the diatom genus *Navicula* Bory. *Navicula scopulorum* Bréb. and a further comment on the genus *Berkeleya* Grev. 161
DEANE, E. M., DUXBURY, T. and O'BRIEN, R. W.
Growth cycle of free-living *Gymnodinium microadriaticum* from *Tridacna maxima* 407
DIAZ, B. M., *see* WHITTON, DIAZ and HOLMES 353
DUXBURY, T., *see* DEANE, DUXBURY and O'BRIEN 407
EDGAR, L. A.
Diatom locomotion: computer assisted analysis of cine film 83
EVANS, L. V., *see* CALLOW and EVANS 327
FAY, P., *see* ROTHER and FAY 59
FORBES, M. A. and HALLAM, N. D.
Embryogenesis and substratum adhesion in the brown alga *Hormosira banksii* (Turner) Decaisne 69
GERRATH, J. F.
Polymorphism in the desmid *Cosmarium taxichondrum* Lundell 211
GIBBS, G., *see* MOSS and GIBBS 255
HALLAM, N. D., *see* FORBES and HALLAM 69
HAPPEY-WOOD, C. M., *see* ONG and HAPPEY-WOOD 361
HINTON, G. C. F., *see* MAULOOD and HINTON 175
HOLMES, N. T. H., *see* WHITTON, DIAZ and HOLMES 353
HUIZING, H. J., RIETEMA, H. and SIETSMA, J. H.
Cell wall constituents of several siphoneous green algae in relation to morphology and taxonomy 25
HUMPHRIES, S. E. and WIDJAJA, F.
A simple method for separating cells of *Microcystis aeruginosa* for counting 313
IRISH, A. E.
Gymnodinium helveticum Penard f. *achroum* Skuja a case of phagotrophy 11
KRISTIANSEN, J.
Observations on some Chrysophyceae from North Wales 231
LEADBEATER, B. S. C., *see* MERRICK and LEADBEATER 339
LI, C.-W. and CHIANG, Y.-M.
A euryhaline and polymorphic new diatom *Proteucylindrus taiwanensis* gen. et sp. nov. 377
LÜTTKE, A.
Induction of colony formation in *Olisthodiscus luteus* Carter 131
MCARTHUR, D. M. and MOSS, B. L.
Gametogenesis and gamete structure of *Enteromorpha intestinalis* (L.) Link 43
MAULOOD, B. K. and HINTON, G. C. F.
Tychoplanktonic diatoms from a stenothermal spring in Iraqi Kurdistan 175
MERRICK, P. J. and LEADBEATER, B. S. C.
Release and settlement of swarmers in *Pleurochrysis scherffelii* Pringsheim 339
MOE, R. L. and SILVA, P. C.
Morphological and taxonomic studies on Antarctic Ceramiaceae (Rhodophyceae). I. *Antarcticothamnion polysporum* gen. et sp. nov. 385
MOSS, B.
Algal and other fossil evidence for major changes in Strumpshaw Broad, Norfolk, England in the last two centuries 263
MOSS, B. L., *see* MCARTHUR and MOSS 43

Moss, M. O. and Gibbs, G.
A comparison of the levels of manganese and iron in the tests of *Trachelomonas* Ehrenb. in Surrey rivers 255
Ngan, Y. and Price, I. R.
Systematic significance of spore size in the Florideophyceae (Rhodophyta) 285
O'Brien, R. W., *see* Deane, Duxbury and O'Brien 407
Ong, M. H. and Happey-Wood, C. M.
The seasonal distribution of micro-green algae in two linked but contrasting Welsh lakes 361
Peletier, H., *see* Admiraal and Peletier 185
Peletier, H., *see* Admiraal and Peletier 197
Percival, E.
The polysaccharides of green, red and brown seaweeds: their basic structure, biosynthesis and function 103
Pienaar, R. N., *see* Ariovich and Pienaar 17
Price, I. R., *see* Ngan and Price 285
Ricketts, T. R.
The induction of synchronous cell division in *Platymonas striata* Butcher (Prasinophyceae) 219
Rietema, H., *see* Huizing, Rietema and Sietsma 25
Rother, J. A. and Fay, P.
Blue-green algal growth and sporulation in response to simulated surface bloom conditions 59
Sietsma, J. H., *see* Huizing, Rietema and Sietsma 25
Silva, P. C., *see* Moe and Silva 385
Swale, E. M. F., *see* Belcher and Swale 225
Tuchman, M. and Blinn, D. W.
Comparison of attached algal communities on natural and artificial substrata along a thermal gradient 243
Walsby, A. E., *see* Booker and Walsby 141
Whitton, B. A., Diaz, B. M. and Holmes, N. T. H.
A computer orientated numerical coding system for algae 353
Widjaja, F., *see* Humphries and Widjaja 313
Wilkinson, M.
Marine algae of the Grampian region of Scotland 33

ABSTRACTS OF PAPERS

presented to the British Phycological Society 1979

ALLISON, E. M. and WALSBY, A. E.
The role of K^+ ion uptake in the regulation of gas vacuoles by turgor pressure in *Anabaena flos-aquae* 119
BAYNES, S. M. and SCOTT, A. P.
Unicellular algae in the diet of turbot larvae 119
BOLTON, J. J.
Zonation patterns on a rocky shore at Bay Bulls, Newfoundland 119
BOOKER, M. J. and WALSBY, A. E.
The relative form resistance of straight and helical blue-green algal filaments 120
BRATTON, G. M. and JONES, A. K.
Interactions between algae and bacteria isolated from the epiphyton of *Scripus maritimus* 120
CALLOW, M. E. and EVANS, L. V.
Polyphosphates in the unicellular red alga *Rhodella* 120
CHAMBERLAIN, Y. M. (Mrs BUTLER)
An account of some epiphytic, crustose corallines 120
CLOKIE, J. J. P., BONEY, A. D. and FARROW, G.
The significance of *Conchocelis* as an indicator organism: data from the Firth of Clyde and N.W. Shelf 120
COLEMAN, N. V. and STEWART, W. D. P.
Enteromorpha prolifera in a polyeutrophic loch in Scotland 121
CONWAY, C. M., MERCIL, S. B. and SHUBERT, L. E.
Algal-nutrient relationships in a saline lake 121
COOK, C. M., CODD, G. A. and STEWART, W. D. P.
Studies on the ribulose 1,5-biphosphate carboxylase of the halophilic blue-green alga *Aphanothece halophytica* 121
CORRIGAN, J. and MCLEAN, R. O.
Nutrition of an epilithic estuarine diatom 122
CRAIGIE, R. A. and CAVALIER-SMITH, T.
Control by cell size of the timing of cell division in synchronous cultures of *Chlamydomonas* 122
CULLINANE, J. P. and WHELAN, P. M.
Current phycological studies on the south coast of Ireland 122
DRING, M. J. and JEWSON, D. H.
What does ^{14}C-uptake by phytoplankton really measure? A fresh approach using a theoretical model 122
FARNHAM, W. F. and IRVINE, L. M.
Discovery of members of the red algal family Solieriaceae in the British Isles 123
FLETCHER, R. L.
Studies on attachment in the red algal genus *Polysiphonia* 123
FURET, J. E. and BENSON-EVANS, K.
Pleomorphism of *Scenedesmus* in the River Wye 123
GUIRY, M. D.
The life history in laboratory culture of an isolate of *Chondrus crispus* Stackh. (Rhodophyta) from Scotland 124

HAPPEY-WOOD, C. M. and HUGHES, D. I.
Physiological and morphological distinctions in cultures of *Asterionella formosa* Hass. isolated from contrasting lakes 124
HARDY, F. G.
The effects of the substratum on the morphology of the rhizoids of *Fucus* germlings 124
HARRIS, G. P.
Phytoplankton fluorescence, productivity and physical processes in Hamilton Harbour, Lake Ontario 124
HINTON, G. C. F. and MAULOOD, B. K.
Some observations on the diatom flora of Serchinar Spring, Sulaimaniyah, Iraq 125
HOWSLEY, R., PEARSON, H. W., WALSBY, A. E. and KJELDSEN, C.
Nitrogenase activity associated with the blue-green alga *Microcoleus chthonoplastes* 125
LÜNING, K.
Photoperiodism in the Trailliella phase of *Bonnemaisonia hamifera* 125
LÜNING, K. and MARKHAM, J. W.
Morphogenetic responses of *Laminaria saccharina* sporophytes to red and blue light 125
MACKENZIE, H. J. and PEARSON, H. W.
Preliminary studies on the potential use of algae in the stabilization of sand wastes and wind blow situations 126
MOSS, B. and EMINSON, D. F.
Relationships between epiphytic algae and their macrophyte hosts in freshwaters 126
PETERSON, H. G. and STEWART, W. D. P.
Carbon, nitrogen and phosphorus cycling in two Scottish freshwater lochs 126
PURDIE, D. A. and JONES, A. K.
Seasonal studies on phytoplankton standing crop and carbon dioxide fixation in Llyn Frongoch, Ceredigion, Wales 127
REID, P. C. and HUNT, H. G.
Continuous plankton records: phytoplankton abundance, herbivore biomass and physical environment parameters in the eastern North Sea 127
ROBERTSON, A. and PEARSON, H. W.
Physiological studies on the effects of water stress in certain intertidal and subtidal algae 127
ROBINSON, G. A. and STEWART, W. D. P.
Inter-relations of freshwater primary and secondary producers in response to nutrient enrichment in a Lund tube 127
RUSSELL, G. and WAREING, A.-M.
The *Herponema velutinum-Himanthalia elongata* coincidence 128
STOCKTON, B. and EVANS, L. V.
Characterization of alginates from *Laminaria digitata* 128
TERRY, L. A.
The effect of irradiance and temperature on the early development of some species of Fucaceae 128
WHITTICK, A. and HOOPER, R. G.
Seasonal changes in the phytobenthos of Conception Bay, Newfoundland, in the vicinity of a thermal outfall 128
WHITTON, B. A. and POTTS, M.
Survey of intertidal blue-green algae in the lagoon of Aldabra Atoll 129

BOOK REVIEWS

Electron Microscopical Studies of the Synuraceae (Chrysophyceae) in Japan. By E. TAKAHASHI 16
Algen Einfuhrung in die Phykologie. By C. VAN DEN HOEK in collaboration with H. M. JAHNS 58
Proceedings of the Ninth International Seaweed Symposium, Santa Barbara, California (U.S.A.) 20–27 August 1977. By A. JENSEN and J. STEIN (Editors) 230
Modern Approaches to the Taxonomy of Red and Brown Algae. By D. E. G. IRVINE and J. H. PRICE (Editors) 326
Toxic Dinoflagellate Blooms. By D. L. TAYLOR and H. H. SELIGER (Editors) 348
Biology of Seaweeds: Levels of Organization. By A. R. O. CHAPMAN 376

OBITUARY

MARJORIE ALISON WILSON 130